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Abstract :

This report presents the flight instrumentation specifications with desired ranges, accuracy and sampling rates for each of the sensors. Details of flight test specifications and conversion of PCM serial flight data to computer compatible tape format are discussed. Estimation of stability and control derivatives of longitudinal and lateral-directional modes of the aircraft using Maximum Likelihood method are presented. Suitability of roller coaster maneuver for estimating the longitudinal derivatives has been demonstrated. Values of some of the derivatives are compared with those from dynamic wind tunnel studies and from other sources .